

SWBAT

calculate unknowns for projectiles

Sep 4-7:31 AM

Welcome!!!

SECA CP Physics
Friday 11 December 2015



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Room C-244

Centering
(circle)

- Show me you are passing on SchoolView, or secure phone!
- Pg 43 & 45 homework!!!
- show me completed projectile packet, practice problem!

Opening Activity - Quick Write!

$$\begin{aligned}
 & a_y = -9.81 \text{ m/s}^2 \\
 & \Delta y = -.6 \text{ m} \\
 & v_{iy} = 0 \\
 & -\Delta t = ?
 \end{aligned}$$

$$\Delta y = v_{iy} \Delta t + \frac{1}{2} a_{iy} \Delta t^2$$

SOLVE FOR Δt

Sep 7-7:04 AM

What we should have solid:

Memorize our 5 vocab cards, units, vector or not, definition, formula

Be able to answer distance vs displacement questions

Be able to make measurements of real-life motion. Know what is likely to make timing things difficult and how to get more reliable timing results

Be able to convert between miles and meters, between hours, minutes, and seconds

Be able to calculate speed = dist/time and velocity = disp/time

Know what all of the symbols in the UAM equations stand for and mean

Be able to turn a UAM word problem into a list of knowns and unknowns

Be able to pick the equation with those 4 things in it

Be able to put the knowns into that equation

(Be able to solve for the unknown)

→ PROJECTILES: v_x IS CONSTANT; $a_y = -9.8 \text{ m/s}^2$ PG 42
PG 43 TIME, Δt , CONNECTS x & y PG 42

QW every day to review? Volunteer answers on board?

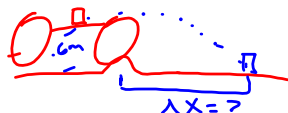
Dec 4-9:15 AM

Unit	Chapters	Date
Left-Side Items	Page	Right-Side Items
REFLECTION ON NOTES	2	TED ED ADAM SAVAGE
HOW FAR FROM BRIDGE	4	"FORT STUEBEN"
REFLECTION ON NOTES	6	HWK: BASIC UNITS
PR: DISTANCE & DISPLACEMENT	8	HWK: FP DISPLACEMENT
DIAGRAM & STEPS	10	TIMING & ERROR
SUMMARY OF TIMING	12	HOW TO BUILD A TABLE
PR: CONVERTING SOLNS.	14	HWK: FP CONVERSIONS
PR: VELOCITY & SPEED	16	HWK: FP SPEED & VELOCITY
SPEED WORD PROBLEMS	18	ALGEBRA FOR PHYSICS
LAB JOURNAL 10/7	20	LAB JOURNAL 10/8
LAB JOURNAL 10/12	24	HWK: FP GRAPHS POSITION
26	USE FOR PROJECT	27
OBSERVATIONS OF ORF	28	FP: INTRO TO ACC.
REVIEW FOR TEST	30	BALL ON RAMP
VECTORS, DIRECTION	32	FP: BASIC ACC EXAMPLE
PRACTICE UAM	34	FP: INTRO TO UAM
FALLING OBJECTS PACKET	36	FP: INTRO TO FREEFALL
MY FREE FALL WORD PROBLEM	38	3-ACT FALLING GLOWSTICK
Toy popper experiment	40	Free fall class solutions
Launched vs. Dropped	42	FP: INTRO TO PROJECTILE MOTION
PROJECTILE SIMULATOR	44	FP: PROJ. MOTION PROBLEM

Sep 5-9:09 AM

Practice Problem...

b) $v_{ix} = 14 \text{ mph}$



$\Delta x = ?$

c) $v_x = 14 \frac{\text{mi}}{\text{hr}}$

$7 \frac{\text{m}}{\text{s}} = 14 \frac{\text{mi}}{\text{hr}} \times \frac{1609 \text{ m}}{1 \text{ mi}} \times \frac{1 \text{ hr}}{3600 \text{ s}}$

$v_x = 6.257 \frac{\text{m}}{\text{s}}$

d) EQN: $v_x = \frac{\Delta x}{\Delta t}$

$\Delta y = v_{iy} \Delta t + \frac{1}{2} a_y \Delta t^2$ (SOLVE FOR Δt)

$-0.6 \text{ m} = 0 \Delta t + \frac{1}{2} (-9.81 \frac{\text{m}}{\text{s}^2}) \Delta t^2$

$-0.6 \text{ m} = -4.905 \frac{\text{m}}{\text{s}^2} \cdot \Delta t^2$

$\frac{-0.6 \text{ m}}{-4.905 \frac{\text{m}}{\text{s}^2}} = \Delta t^2$

$0.122 \dots \text{s}^2 = \Delta t^2$

$0.35 \text{ s} = \Delta t$

$v_x = \frac{\Delta x}{\Delta t}$

$6.257 \frac{\text{m}}{\text{s}} = \frac{\Delta x}{0.349 \text{ s}}$

$\Delta x = 2.18 \text{ m}$

Dec 10-9:18 AM

Class Challenge?

Dec 11-9:01 AM